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Following Entry of This Amendment

- 1 1.(amended) A sensor, comprising:
 - 2 a signal source that emits a physical signal;
 - 3 a signal detector at a distance from the signal source to receive the physical signal;
 - 4 an evaluation unit which is connected to the signal detector and evaluates the received
 - 5 physical signal to determine the relative distance between the signal source and the signal detector,
 - 6 wherein the signal source and the signal detector are situated on separate substrate bodies;
 - 7 a control unit is connected to the signal source, the signal detector , and the evaluation unit,
 - 8 wherein the signal source, signal detector and the evaluation unit can each be individually turned
 - 9 on and off the control unit.
- 1 2.(amended) The sensor of claim 1, wherein the evaluation unit includes a memory device having
- 2 characteristic information indicative of the signal source.
- 1 3.(amended) The sensor of claim 1, wherein the spatial distance between the signal source and
- 2 the signal detector is constant, and the transmission properties of the transmission channel between
- 3 the signal source and the signal detector are variable.
- 1 4.(amended) The sensor of claim 1, wherein the spatial distance between the signal source and
- 2 the signal detector is variable, and that the transmission properties of the transmission channel
- 3 between the signal source and the signal detector are constant.

1 5.(amended) The sensor of claim 3, wherein the evaluation unit is configured and arranged such
2 that the gas density or the transport rate or the throughflow quantity can be determined from the
3 relative distance.

1 6.(amended) The sensor of claim 4, wherein the evaluation unit is configured and arranged such
2 that the force acting on the sensor can be determined from the relative distance.

1 7.(amended) The sensor of claim 6, wherein the control unit is connected to the signal source and
2 controls it, and that the evaluation unit is connected to the control unit in such a way that the
3 information regarding the signal source can be updated with control data received from the control
4 unit.

1 8.(amended) The sensor of claim 1, wherein the evaluation unit and is integrated into at least
2 one of the substrate bodies.

1 9.(amended) The sensor of claim 8, wherein the evaluation unit is situated in the substrate body
2 directly adjoining the signal detector.

1 10.(amended) The sensor of claim 8, wherein the evaluation unit is integrated into the second
2 substrate body and the control unit is integrated into the first substrate body.

1 11.(amended) The sensor of claim 10, wherein the evaluation unit includes means for amplifying
2 the signal.

1 12.(amended) The sensor of claim 3, wherein the second substrate body, in which the signal
2 detector is situated includes a diaphragm.

1 13.(amended) The sensor of claim 12, further comprising a damping device to damp the
2 diaphragm.

1 14.(amended) The sensor of claim 1, wherein the signal detector is sub-divided into a plurality
2 detector elements sufficient to provide a measure of spatial resolution.

1 15.(amended) The sensor of claim 14, wherein said evaluation unit includes means for processing
2 the spatially resolved measurement.

1 16.(amended) The sensor of claim 15, wherein conductor tracks are situated in the respective
2 substrate is used to form the signal source.